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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/767,193

01/30/2004

Masaru Oda

392.1865

5035

21171 7590 04/29/2008

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EXAMINER

LOUIE, WAE LENNY

ART UNIT

PAPER NUMBER

3661

MAIL DATE

DELIVERY MODE

04/29/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/767,193	Applicant(s) ODA ET AL.	
	Examiner WAE LOUIE	Art Unit 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14-17, 19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-12, 14-17, 19 and 20 is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Prosecution Application

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/29/2008 has been entered.

Claims 1-12, 14-17, 19-20 filed on November 8, 2007 are under consideration. Claims 13 and 18 have been cancelled.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelley (4,402,053) in view of Sakakibara et al (4,816,733).

As per claim 1, Kelley discloses an object taking-out apparatus for taking out an object comprising a robot (20) having a robot arm (22); a hand attached to a distal end of the robot arm and having holding means for holding an object (col. 4, lines 66-68 and col.5, lines 1-4); a detecting means for detecting an object to be taken out; and a

controller for issuing commands to said hand (col. 4, lines 19-22), wherein said hand has orientation changing means (col. 4, lines 10-13) provided at said hand (col. 14, lines 25-27), but is silent concerning changing orientation of said holding means to selectively take one of a plurality of orientations including a first orientation and a second orientation different from each other in accordance with a command from the robot controller.

Sakakibara teaches a tool position compensation method "where a tool mounted on a hand of a robot is replaced with a new tool the compensation method easily and accurately correcting the tool position of the new tool by obtaining information on the axes of the robot after the new tool has been mounted on the basis of tool position information prior to the tool change" (col.1, line 65-col.2, line 5). It would have been obvious to one of ordinary skill in the art at the time of invention to modify Kelley's object taking out apparatus with Sakakibara's method of selecting a plurality of orientations for the holding means in order to gain greater accuracy and flexibility. Although Sakakibara does not teach holding means, it would have been obvious to one of ordinary skill in the art to equate the tool to be holding means since it is disclosed with "grip point and grip direction" in Fig. 3 (col4, line 33-36).

As per claims 2, 3, 4, 5, Kelley and Sakakibara discloses all the claimed elements as mentioned in claims 1, and further discloses a center of holding offset from an axis of a proximal portion (col. 4, lines 36-38), Kelley fails to disclose specific ranges, for example, an angle equal to or less than 45 degrees or an angle substantially equal to 90 degrees.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify an object taking-out apparatus for taking out an object of Kelley to include a plurality of orientations at a plurality of angles, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelley et al. (4,402,053) and Sakakibara et al (4,816,733), in view of Kanno (US 6,597,971 B2).

As per claims 6-7, Kelley and Sakakibara discloses all the claimed elements as mentioned in claims 1, and further discloses a visual sensor (44) for detecting a condition of placement of an object (col. 7, lines 18-19), an orientation changing means (col. 4, lines 66-68), a visual sensor having means for storing taught image models of an object as seen from different directions (col. 10, lines 46-52), a means for comparing a captured image of the object with the taught image models (col. 8, lines 36-38), and for selecting one of the taught image models according to a degree of conformity (col. 8, lines 38-39), Kelley fails to disclose that said orientation changing means changes the orientation of a holding means according to a detected condition or taught image model before holding the object.

Kanno in the same field of invention discloses an object taking out apparatus with an orientation changing means that changes the orientation of said holding means

according to detected conditions (col. 4, lines 8-11) and taught image models (col. 7, lines 59-62) before holding the object.

From this teaching of Kanno, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the object taking-out apparatus of Kelly to include an orientation changing means that changes the orientation of a holding means according to detected conditions and taught image models as taught by Kanno in order for a robot to pick up randomly stored work pieces to reduce a burden on an operator (col.1, lines 50-53).

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelley et al. (4,402,053), in view of Wilder et al. (4,613,269).

As per claim 8, although Kelley discloses all the claimed elements as mentioned in claims 1, Kelley fails to disclose a visual sensor for detecting condition of overlapping of objects, wherein a holding position of the object by said holding means is changed according to the detected condition.

Wilder in the same field of invention discloses an object taking out apparatus with a visual sensor (1) for detecting condition of overlapping of objects (via 105; Fig. 6), wherein a holding position of the object by said holding means is changed according to the detected condition (via 125; col. 9, lines 26-28).

From this teaching of Wilder, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the object taking-out apparatus of Kelly to include a visual sensor for detecting condition of overlapping of

objects, wherein a holding position of the object by said holding means is changed according to the detected condition as taught by Wilder in order to acquire jumbled objects or work pieces from a bin and transferring them to an intermediate or final site (Wilder, col. 1, lines 37-39).

As per claims 9, the combination of Kelley and Wilder fails to disclose the use of a slider mechanism for the visual sensor to move on. It also would have been obvious to one having ordinary skill in the art at the time the invention was made to modify an object taking-out apparatus for taking out an object of Kelley to include a slider mechanism for the visual sensor to move on, since it has been held that the provision of adjustability, where needed, involves only routine skill in the art. *In re Stevens*, 101 USPQ 284 (CCPA 1954).

Allowable Subject Matter

Claims 10-12, 14-17, and 19-20 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wae Lenny Louie whose telephone number is 571-272-5195. The examiner can normally be reached on M-F 0700-1530.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on 571-272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Wae Lenny Louie/

Examiner, Art Unit 3661

/Thomas G. Black/

Supervisory Patent Examiner, Art Unit 3661